REMARKS

Claims 1-22 are pending.

Claims 1-3 and 5-7 are rejected under 35 USC 103(a) as being unpatentable over Fukunaga, U.S. Patent No. 6,580,738 in view of Serreze, U.S. Patent No. 5,222,090 and further in view of Hara, U.S. Patent No. 4,794,611. This rejection is respectfully traversed.

With regard to claim 1, the Examiner asserts that Fukunaga teaches all of the claimed features except for "an oscillation wavelength of larger than 760 nm and smaller than 800 nm" and "said upper and/or lower guide layer is formed of $Al_zGa_{1-z}As$ ($0.20<z\leq1$)." The Examiner asserts that Serreze discloses the feature of "an oscillation wavelength of larger than 760 nm and smaller than 800 nm" and that Hara discloses the feature of "said upper and/or lower guide layer is formed of $Al_zGa_{1-z}As$ ($0.20<z\leq1$)." The Examiner asserts that it would have been obvious to combine the references to achieve the claimed invention. Applicants respectfully disagree and submit that the Examiner has merely picked and chosen various elements from various references in an attempt to recreate the claimed invention.

Fukunaga relates to a semiconductor laser emitting laser light having a wavelength of 0.7 μm - 1.2 μm, and teaches a combination of a substrate 121 of GaAs, an active region 124-128 including barrier and well layers of InGaAsP or InGaAs, and upper and lower optical guidewave layers (guide layers) 123, 130 of InGaP. It is this specific combination of materials which achieves the objectives set forth in the patent.

Serreze relates to a semiconductor laser emitting laser light having a wavelength of 700-850 nm (0.7-0.85 μm), and teaches a combination of an active region 20 including barrier and well layers of InGaAsP or AlGaInAs, and upper and lower confinement layers (guide layers) 18, 22 of AlGaInAsP. Serreze further teaches that examples of suitable fixed composition confinement layer is the use of $(Al_{0.2}Ga_{0.8})_{0.5}In_{0.5}P$ or $Ga_{0.5}In_{0.5}P$ in the case of an InGaAsP quantum well structure or $Al_{0.2}Ga_{0.8}As$ in the case of an AlGaInAs quantum well structure (see col. 3, lines 12-16).

Hara relates to a semiconductor laser having a super-lattice structure of unspecified wavelength, and teaches a combination of a substrate 21 of GaAs, an active/optical confinement layer 24 including a GaAs active layer 24a and $Al_{0.4}Ga_{0.6}As$ upper and lower optical confinement layers 24b, and AlGaAs layers 23, 25 sandwiching the layer 24 therebetween.

Claim 1 requires a combination of a substrate of GaAs; well and barrier layers of InGaAsP (and/or InGaP and/or GaAsP); and upper and lower guide layers of AlGaAs.

None of the above three references teaches the combination of the materials required by Claim 1.

Serreze, at col. 3, lines 12-16, discloses that "examples of suitable fixed composition confinement layer is the use of $(Al_{0.2}Ga_{0.8})_{0.5}In_{0.5}P$ or $Ga_{0.5}In_{0.5}P$ in the case of an InGaAsP quantum well structure or $Al_{0.2}Ga_{0.8}As$ in the case of an AlGaInAs quantum well structure." This is evidence that there exists an appropriate combination of materials for layers of a particular semiconductor laser. That is, layer materials should be combined suitably and properly.

While Hara does disclose an AlGaAs layer, Hara's AlGaAs layer is used in combination with the GaAs active layer, and not in combination with the InGaAsP. To combine the AlGaAs layer of Hara with the InGaAsP layer of Fukunaga would not necessarily result in the device desired by Fukunaga. It is the specific combination of layers in Hara and Fukunaga which results in the desired objectives of both patents. One cannot pick and choose various elements from these patents, without consideration to the remaining structure of the respective devices.

Further, Fukunaga's invention requires the use of InGaP as a material of the upper and lower guide layers combined with the InGaAsP barrier and well layers. Thus, there would have been no motivation to combine Hara's AlGaAs layers with Fukunaga's laser.

Still further, when applying the wavelength band taught by Serreze to the semiconductor laser of Fukunaga having the InGaAsP active region, those skilled in the art would have used the

$(Al_{0.2}Ga_{0.8})_{0.5}In_{0.5}P$ or $Ga_{0.5}In_{0.5}P$ guide layers in accordance with the teaching of Serreze (col. 3, lines 12-16). This would not result in the claimed invention.

Accordingly, one of ordinary skill in the art would not have been motivation to combine the references to achieve the claimed invention. Applicants therefore request that this rejection be withdrawn.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 204552028900.

Dated: February 6, 2006

Respectfully submitted,

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